

palæolithic man, he makes use of Mr. Tylor's comparison with the aborigines of Tasmania; but on p. 36 we find the following: "In speaking of the probable mental and moral condition of man in the older stone age, we have, for want of further material, compared him with the aborigines of Australia, Tasmania, and New Zealand." Next time the author visits the British Museum, he will, perhaps, take a glance at the weapons and other implements of the Maoris that are exhibited there, and reconsider the evidence on which he regards these people as useful for purposes of comparison with men of the palæolithic age.

There is a great deal of foolish writing—there is no other term for it—in Chapter iv. headed "The Myth of the Great Ice-Sheet." The author concludes a tiresome tirade by admitting an ice-sheet, formed of confluent glaciers, which covered the greater part of the British Isles; he calls it a "modest local or British ice-sheet." With this conclusion in view, we might well have been spared the vapourings on "superstition," "bugbears," "myths," "nightmares" and the like—terms culled apparently from Sir Henry Howorth's vocabulary—as well as the somewhat spiteful gossip about Agassiz and Schimper. More modesty might have been expected from a popular writer; we shall not imitate Mr. Hutchinson's style, and say a mere popular writer—it would be rude—in discussing the views of some of the great geologists of the past. To speak of Ramsay, Agassiz, and Croll as having "gone mad over ice," as prostrating before it "not only their bodies, but their minds," and as having been beyond the reach of reason, is not becoming: still worse is the expression that Croll misled the public. Croll requires no defence from us, and we make no further comment.

The author appears as a reconciler of Genesis and science, with a somewhat inadequate acquaintance with Babylonian writings; the same deficiency appears in the ten pages devoted to the question of the origin of the zodiacal signs. He was warned of the doubtful nature of Mr. Peck's theory by Mr. Flinders Petrie, but introduces it with the usual plea—it may be wrong, but it is "interesting." There is an extensive literature on the origin of the zodiacal signs, and the probabilities all point to Babylonia as their birthplace.

As for the literary style of the book, it is well enough so long as the author keeps to digests, summaries, and simple descriptions; but where he gives us something of his own, the result is less pleasing. We could well have dispensed with several feeble witticisms, a parade of puerile suggestions, and a good deal of sentiment. As an instance of the author's undiluted style, we quote the following:—

"How delighted must Mr. Ruskin and all true followers of our great teacher and prophet be to learn that, after all, we shall not have to give up our fairies! And what an anti-climax must such a result appear to those hard, unsentimental scientific workers and thinkers who were wont to consider fairy tales as nothing but pure 'stuff and nonsense'! It must be somewhat humiliating to such—if there be any left—to reflect that they must no longer dare to despise fairies, but are compelled, in the sacred name of Science (with a *very* big S), to pay homage to them!"

W. J. SOLLAS.

#### OUR BOOK SHELF.

*Getting Gold: a Practical Treatise for Prospectors, Miners, and Students.* By J. C. F. Johnson, F.G.S., Member of the Aust. Inst. of Mining Engineers, Pp. xii + 204. (London: Charles Griffin and Co., Ltd., 1897.)

IN this book will be found much practical information on the mining and subsequent treatment of gold ores, particularly useful to the prospector setting out for Australia. It has often been said that the practical man does not write books, but there is here a complete refutation of the calumny. There are chapters on the "genesiology" of gold, which are hardly of practical value, on the treatment of ores by various processes, and on company formation. A useful section, too, is devoted to prospecting, in which the various difficulties of finding gold are clearly set forth. "Where it is, there it is," the author quotes, "and where it is, generally, there I ain't." The best part of the book, however, is undoubtedly under the heading of the "Rules of Thumb." Here the practical man shows what he can do. The recipes given are absolutely encyclopædic, and all more or less to the point. We are told how to make fire, how to find water, how to purify it and carry it, how to copy correspondence, to cross a flooded stream, and to build a house. One is lost in admiration at the wealth of knowledge displayed, and the mixture of "cuteness" and simplicity in the remarks.

The tables at the end of the book are less happy. A dozen or more mistakes occur in a short table of fusing and boiling points, and the elementary algebra seems unnecessary in the present state of primary education. Nevertheless, though not without faults, the book will be most useful to prospectors who have not been through a course of study at a School of Mines.

*Photo - Trichromatic Printing* By C. G. Zander. (Raithby, Lawrence, and Co., Ltd., 1896.)

THIS book is a model of neatness and printing, and harmonises well with the subject of which it treats. The author has not attempted an elaborate text-book on the optical sciences of chromatics and spectroscopy, but states in a straightforward and clear manner the outlines of the causes of colour phenomena and the effects of pigmentary mixtures and combinations. A perusal of the fifty pages shows that Mr. Zander has adopted a very happy arrangement for the sequence of the matter dealt with, making the book easy reading for even those who are not very familiar with the subject.

The first of the four parts into which the book is divided treats of chromatics and, more briefly, spectroscopy, the reader being introduced to the three fundamental colour sensations. In Part ii. pigment mixtures are discussed, and many a useful hint may be gathered here by those who wish to know the why and the wherefore of common every-day manipulations. The explanatory diagrams showing the absorption of two typical pigments and those of the resulting mixtures are all that could be desired. A useful *aide-mémoire* is the chromatic clock-dial, which is an ingenious idea for helping those who work with colours to remember which are the contrast or complementary colours, and how saddened colours or tints may be produced.

Three-colour work, or the production of any colour by the combination of the three primary colour sensations, is treated of in the third part.

The concluding section is devoted to the important question of photochromic printing inks, the author pointing out the chief essential qualities that they must possess for successful work.

We may say, in conclusion, that printers and artists have in these few pages a useful handy guide, which will give them an insight into the art of successful photochromic three-colour printing.